ous. Cultural work without such conjectures based on field observations are largely a waste of time, rarely leading to any positive information. The time to make observations is early spring, when the rusts first begin to show, mostly in April and May. Simple record of proximity is not especially important. The observations must show that the inference is well established, that the new growth of spores has come from germinating spores of another sort found near by. The ability to work out such an inference marks the logical and acute observer.

I desire to thank Messrs. Kellerman, Bates, Davis and Bartholomew for providing teleutosporic material, and also Mr. Holway for numerous favors. I have already mentioned the kindness of Messrs. R. Douglas' Sons in providing host plants; strong plants of *Callirrhoe involucrata* were sent by Mr. Bartholomew. My particular thanks, moreover, are due to the Botanical Society of America for providing funds by which the work could be prosecuted, not only in the laboratory but in the field. The observations at Fair Oaks, Ind., by far the most important of those made in a single locality, were rendered possible by the society's generosity.

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NOTES FROM MYCOLOGICAL LITERATURE. VIII.

W. A. KELLERMAN.

THE MYCOLOGICAL ARTICLES IN ANNALES MYCOLOGICI, VOL. I, No. 6, Nov. 1903, are as follows: The Genus Harpochytrium in the United States (Atkinson); Das Absterben der Stöcke der Johannis- und Stachelbeeren, verursacht von Cytosporina Ribis P. Magnus n. sp. (van Hall); Ueber die geographische Verbreitung der Meliola nidulans (Schw.) Cooke (Neger); Die Discomyceten-Gattung Aleurina Sacc. (Rehm); Urophlyctis hemisphaerica (Speg.) Syd. (Sydow); Mycotheca germanica Fasc. I (no. 1-50) Fasc. II (no. 51-100) (Sydow); Mycologische Fragmente (v. Höhnel); Eine Neue Puccinia auf Senecio (Dietel); Sur le Phytophthora infestans (Matruchot & Molliard).

THE DAILY PROGRAM OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, 53d Annual Meeting at St. Louis, last week in 1903, contained the following mycological papers: Cultures of Uredineae in 1903, J. C. Arthur; Uredineous Infections in 1903, W. A. Kellerman; Some Unusual Diseases of Plants in Iowa for the Season of 1903, L. H. Pammel; Symbiosis in Lolium, E. M. Freeman; A Lichen Society of a Sandstone Riprap, Bruce Fink; The Genus Harpochytrium; its Development, Synonymy and Distribution, G. F. Atkinson;

The Phylogeny of Lichens, F. E. Clements; The Necessity of Reform in the Nomenclature of Fungi, F. S. Earle; The Taxonomic Value of the Spermogonium, J. C. Arthur; Proof of the Identity of Phoma and Phyllosticta on the Sugar Beet, G. G. Hedgcock; Unpublished Notes on the Uredineae, M. A. Carleton; Craterellus taxophilus, a New Species of Thelephoraceae, C. Thom; Fungi Cultivated by Texas Ants, A. M. Ferguson.

DR. RUD. ADERHOLD IS THE AUTHOR OF TWO ILLUSTRATED LEAFLETS, namely, Der Krebs der Obstbäume und seine Behandlung [Nectria], and Die Monilia-Krankheiten unserer Obstbäume und ihre Bekämpfung, which are publications of the Kaiserliches Gesundheitsamt, Berlin, Germany, Biologische Abtheilung für Land- und Forstwirtschaft, Flugblatt Nr. 14, Oct. 1902, and Flugblatt Nr. 17, Dec. 1902.

UREDINEAE JAPONICAE, IV, BY P. DIETEL IN ENGLER'S BOTANISCHE JAHRBUECHER, 32:624-632, gives a large number of new species, a few of the interesting ones being: Puccinia asparagi lucidi on Asparagus lucidus, Phragmidium heterosporum on Rubus trifidus, Uredinopsis corchoropsidis on Corchoropsis crenata: Aecidium polygoni-cuspidati on Polygonum cuspidatum, Aecidium hydrangeae paniculatae on Hydrangea paniculata and Aecidium fraxini-bungeanae on Fraxinus bungeana. Uredinopsis corchoropsidis occurs on a *Tiliaceous* host — heretofore representatives of this genus have been found only on Ferns.

TITLES OF MYCOLOGICAL ARTICLES IN OESTERREICH. BOT. ZEITSCHRIFT for the years 1901 and 1902 are as follows. H. & P. Sydow — Zur Pilzflora Tirols; H. & P.Sydow — Uebersicht und Beschreibung sämmtlicher bisher auf der Gattung Crepis gefundenen Uredineen; Victor Kindermann—Ueber das sogenannte Bluten der Frucht Körper von Stereum sanguinolentum Fr.; P. Magnüs — Ein Beitrag zur Geschichte der Unterscheidung des Kronenrostes der Gräser in mehrere Arten.

THE GENUS HARPOCHYTRIUM IN THE UNITED STATES is the subject of an extended article by Geo. F. Atkinson in Annales Mycologici, 1:479-502, Pl. X, Nov. 1903. He studied a form in 1895, and again the past season, occurring on Spirogyra, and proposes the name of Harpochytrium intermedium n. sp. He regards the generic names Fulminaria (by Gobi, 1889) and Rhabdium (by Dangeard, 1903), as synonyms with Harpochytrium (by Lagerheim, 1890). The known species are H. hyalothecae Lag. (H. hyalothecae Schroet., Fulminaria mucophila Gobi, Fulminaria mucophila Wille), H. hedenii (Rhabdium acutum Dang., Fulminaria hedenii Wille) and H. intermedium Atks.

C. J. J. VAN HALL OUTLINES HIS OBSERVATIONS AND PARTIAL STUDY of a prevalent and destructive disease of Currants and Gooseberries in North Holland, where these are extensively cultivated with great care and success and "therefore" remarkably

free from parasitic diseases. The root parasite is supposed by P. Magnus to be a new species. The article is published in Annales Mycologici, 1:503-512, Pl. XI, Nov. 1903, under the title: Das Absterben der Stöcke der Johannis- und Stachelbeeren, verursacht von Cytosporina Ribis P. Magnus (n. sp.)

ELLIS & EVERHART'S FUNGI COLUMBIANA, CENTURY XIX, edited and published by Elam Bartholomew, Stockton, Kansas, was issued Dec. 29, 1903. Three new species, with descriptions, appear in this century as follows: 1808, Ascochyta lethalis Ell. & Barth, n. sp., on living stems of Melilotus alba; 1820, Dicoccum psoraleae Ell. & Barth. n. sp., on living leaves and stems of Psoralea tenuiflora; 1874, Septoria grindeliae Ell. & Barth. n. sp., on living leaves of Grindelia squarrosa.

A REPORT IN SCIENCE, DEC. 25, 1903, OF GRANTS made by the Carnegie Institution for research during the fiscal year 1902-3, shows one Mycological subject, namely, Researches on the Cytological relations of the Amoebae, Acrasieae and Myxomycetes, E. W. Olive. The work was carried on in Professor Strasburger's laboratory in the Botanical Institute at Bonn, Germany. The sum granted for Mr. Olive's use was $1,000. Two papers are nearly completed incorporating a portion of his results.

THE STRUCTURE AND CLASSIFICATION OF THE PHYCOMYCETES, with a revision of the Families and a rearrangement of the North American Genera, by Charles E. Bessey, is published in the Trans. Am. Micr. Soc. 24:27-54, Pl. II, Nov. 1903. The nine families of fungi are distributed among three orders, all of the class Chlorophyceae, of the branch Phycophyta. The author states that their affinities with their algal relatives, rather than their mutual relationships, must dominate their classification. To the groups, including genera, are added full and useful diagnoses preceded by extended synoptical keys.

A KEY TO THE NORTH AMERICAN SPECIES OF INOCYBE (second part) is given by F. S. Earle in Torreya, 3:183-4, Dec. 1903. Twenty-five species are included, forming *sections* Rimosae, Velutineae, and Viscidae.

UEBER DIE IN GEBAEUDEN AUFTRETENDEN WICHTIGSTEN HOLZBEWOHNDEN SCHWAEMME von P. Hennings (Hedwigia, 42:178-191, 7 Oct. 1903) includes a very full general account of such fungi as Merulius lachrymans, Polyporus vaporarius, Lenzites sepiaria (L. abietina), Dædalea quercina, Fomes igniarius, Coniophora cerebella, Corticium giganteum, Lentinus squamosus, Coprinus domesticus, Armillaria mellea, Xylaria polymorpha, etc. The author states that he has found kürzlich in einem Hause bei Berlin auf der Unterseite feuchter, morscher kieferner Dielenbretter unter der Wasserleitung einen sehr kleinen schwarzen Pilz, namely, Coniothyrium domesticum P. Henn. n. sp. peritheciis superfiicialibus subglobosis vel ovoideis, sub-

papillatis, atris, membranaceo-subcarbonaceis, ca. 100-120 μ diam.; conidiis ovoideis ellipsoideis vel subcitriformibus, utrinque obtusiusculis, 1-2-guttulatis, læte brunneis, 8-10 x 4-5μ.

IN BEIBLATT ZUR HEDWIGIA, 42:(233)-(240), 7 Oct. 1903, P. Hennings publishes some interesting notes Ueber die an Bäumen wachsenden heimischen Agariceen. Some interesting statements are: that Collybia velutipes occurs on various species of *living trees* (commoner however on stumps); Pleurotus ostreatus common on *living* trunks, seldom on stumps; Pleurotus ulmarius epecially on *living* Elm trunks, in Schlesien on Tilia; Pluteus cervinus mostly on stumps of deciduous trees and evergreens, but also quite often on *living* trunks; Lentinus stypticus on stumps and on *living* Hazel; Schizophyllum alneum on prostrate Ash-stems, etc., also on *living* Linden, commoner in the tropics on various *living* tree trunks.

IN PROFESSOR BESSEY'S ARTICLE ON EVOLUTION IN MICROSCOPIC PLANTS, Trans. Am. Micr. Soc. 24:5-12, Nov. 1903, we notice that the "chlorophylless members of the class of the green-algae (Chlorophyceae)", the more important families being Saprolegniaceae and Peronosporaceae, show but little modification from that of a *green felt,* the former having lost the chlorophyll, become reduced in size, and bear many zoospores; but the downey-mildews have become parasitic on higher (aerial) plants, and substituted conidia for zoospores and suppressed antherozoids. The Mucoraceae are "related to the green felts" — and in the sexual apparatus the greatest modifications have taken place.

IN MYCOLOGISCHE FRAGMENTE, ANN. MYCOLOG. 1:522-534, Nov. 1903, Dr. Franz v. Höhnel describes many new species and the following new genera: Bresadolella n. gen. Nectriacearum; Myxolibertella n. gen. — est *Libertella* vel *Myxosporium* cum sporulis filiformibus et oblongis (vel fusoideis) commixtis; Sporodiniopsis n. gen. Hyphomycetum; Cirrhomyces n. gen. Dematiearum; Aegeritopsis n. gen. — Tubercularieae mucedineae staurosporae. In the same article he states that Cercospora platyspora E. et Holw. on Zizia integerrima, and Cercospora sii E. et Ev. on Sium cicutifolium, are the same and höchst wahrscheinlich synonyms of Fusicladium depressum — not *Cercospora* because the spores are two-celled.

CORTICIUM VAGUM B. & C. VAR. SOLANTI BURT, a fruiting stage of Rhizoctonia solani, is reported by F. M. Rolfs in Science, N. S. 18:729, Dec. 4, 1903. This is based on a study of the Potato Rhizoctonia begun in 1901. "Observations show that potato plants developed from tubers which are more or less covered with sclerotia of this fungus usually have their subterranean parts overrun with a dark brown cobweb-like mycelium. This frequently extends up the green stems from one to three inches above the ground forming a thin hymenial layer which is usu-

ally gray-white in color. . . . The tips of the outermost branches of this hymenial layer become changed into basidia bearing from two to six sterigmata."

EINE NEUE PUCCINIA AUF SENECIO VON P. DIETEL, (Ann. Mycolog. 1:535, Nov. 1903) is Puccinia tasmanica Diet. n. sp., Tasmania, in caulibus foliisque Senecionis vulgaris, IV, 1895. Aecidia and teleutospores are noted; adsunt etiam teleutosporae uniloculares.

SYDOW, MYCOTHECA GERMANICA FASC. I (NO. 1-50), FASC. II (NO. 51-100), the first two fascicles of a new set of Exsiccata, are noticed in Ann. Mycolog. 1:519 and 536, Nov. 1903. Diagnoses of the new species included (five in the first and six in the second Fascicle) are a part of the article here alluded to.

H. U. P. SYDOW GIVE A NOTE IN ANNALES MYCOLOGICI, 1: 517-8, Nov. 1903, touching "Urophlyctis hemisphaerica (Speg.) Syd." which Spegazzini described in Fungi Argent. IV, 1881, as Uromyces hemisphaericus. The authors list the synonomy of Urophlyctis hemisphaerica (Speg.) Syd. as follows: Uromyces hemisphaericus Speg. (1881), Urophlyctis kriegeriana P. Mag. (1888), Protomyces vagabundus Speg. pp. (1891), Cladochytrium kriegerianum A. Fisch. (1892), Entyloma hemisphaericum Speg. pp. (1889), Oedomyces hemisphaericus Speg. pp. (1903).

NUMEROUS MYCOLOGICAL ARTICLES HAVE APPEARED IN COMPTES RENDUS, T. 136, Jan.-June, 1903, par example: Beauverie, La Maladie des platanes; Coupin, Sur la nutrition du Sterigmatocystis nigra, Sur les formes tératologiques du Sterigmatocystis nigra privé de potassium; Dangeard, Observations sur la théorie du cloisonnement, Observations sur le Monas vulgaris, Un nouveau genre de Chytridiacées: le Rhabdium acutum, Sur le nouveau genre Protascus, La sexualité dans le genre Monascus, Sur le Pyronema confluens; Guilliermond, Contribution à l'étude de l'épiplasme des Ascomycètes, Nouvelles recherches sur l'épiplasme des Ascomycètes; Mangin, Sur la phthiriose, maladie de la Vigne causée par le Dactylopius Vitis et le Bornetina Corium, Sur la maladie du Châtaignier causée par le Mycelophagus Castaneae, Sur un nouveau groupe le Champignons, les Bornétinées, et sur le Bornetina corium de la Phthiriose de la Vigne; Marchal, La spéciealisation du parasitisme chez l'Erysiphe graminis D.C.; Matruchot, Germination des spores de truffes; culture et caractères du mycèlium truffier, Sur les caractéres botaniques du mycélium truffier; Molliard, Rôle des bactéries dans la production des périthèces des Ascobolus; Prunet, Sur un maladie des rameaux du Figuier; Ray, Étude biologique sur le parasitisme: Ustilago Maydis.